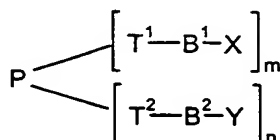


We claim:-

1. Solid pigment preparations comprising as essential constituents

- (A) from 60% to 85% by weight of at least one organic pigment,
- (B) from 0.1% to 15% by weight of at least one pigment derivative of the general formula I



where

P is the residue of the core structure of an organic pigment;

T<sup>1</sup> and T<sup>2</sup> are independently a chemical bond, -CONR<sup>1</sup>- or -SO<sub>2</sub>NR<sup>1</sup>-;

B<sup>1</sup> and B<sup>2</sup> are independently a chemical bond, C<sub>1</sub>-C<sub>8</sub>-alkylene or phenylene;

X and Y independently represent identical or different groups -SO<sub>3</sub><sup>-</sup>Ka<sup>+</sup> or -COO<sup>-</sup>Ka<sup>+</sup>;

m and n are each a rational number from 0 to 3 subject to the proviso that 1 ≤ m+n ≤ 4;

Ka<sup>+</sup> is H<sup>+</sup>, Li<sup>+</sup>, Na<sup>+</sup>, K<sup>+</sup>, N<sup>+</sup>R<sup>2</sup>R<sup>3</sup>R<sup>4</sup>R<sup>5</sup> or a mixture thereof;

R<sup>1</sup> is hydrogen; C<sub>1</sub>-C<sub>4</sub>-alkyl; unsubstituted or C<sub>1</sub>-C<sub>18</sub>-alkyl-substituted phenyl; or unsubstituted or C<sub>1</sub>-C<sub>18</sub>-alkyl-substituted naphthyl;

R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup> and R<sup>5</sup> are independently hydrogen; C<sub>1</sub>-C<sub>30</sub>-alkyl; C<sub>3</sub>-C<sub>30</sub>-alkenyl; C<sub>5</sub>-C<sub>6</sub>-cycloalkyl, unsubstituted or C<sub>1</sub>-C<sub>24</sub>-alkyl-substituted; unsubstituted or C<sub>1</sub>-C<sub>24</sub>-alkyl- or C<sub>2</sub>-C<sub>24</sub>-alkenyl-substituted phenyl; unsubstituted or C<sub>1</sub>-C<sub>24</sub>-alkyl- or C<sub>2</sub>-C<sub>24</sub>-alkenyl-substituted naphthyl; a radical of the formula -[CHR<sup>6</sup>-CHR<sup>7</sup>-O]<sub>x</sub>-R<sup>8</sup> where the repeat units -[CHR<sup>6</sup>-CHR<sup>7</sup>-O] can vary for x > 1;

R<sup>6</sup>, R<sup>7</sup> and R<sup>8</sup> are independently hydrogen or C<sub>1</sub>-C<sub>6</sub>-alkyl;

x is an integer ≥ 1,

and

- 5 (C) from 14.9% by weight to 39.9% by weight of at least one surface-active additive selected from the group consisting of the nonionic polyethers comprising no primary amino group, said polyethers' acidic phosphoric, phosphonic, sulfuric and/or sulfonic esters, the salts of these esters and the alkyl- and alkylarylsulfonic acids, their salts and their condensation products with formaldehyde.
2. Pigment preparations as claimed in claim 1 in the form of granules having an average particle size from 50 to 5 000  $\mu\text{m}$  and a BET surface area of  $\leq 15 \text{ m}^2/\text{g}$ .
- 10 3. Pigment preparations as claimed in claim 1 or 2, wherein component (B) is at least one pigment derivative of the formula I where P is the residue of the core structure of an organic pigment selected from the group consisting of the anthraquinone, quinacridone, quinophthalone, diketopyrrolopyrrole, dioxazine, flavanthrone, indanthrone, isoindoline, isoindolinone, isoviolanthrone, perinone, perylene, phthalocyanine, pyranthrone, pyrazoloquinazoline and thioindigo pigments.
- 15 4. Pigment preparations as claimed in any of claims 1 to 3, wherein component (C) is at least one additive selected from the group consisting of the alkylene oxide copolymers, the reaction products of alkylene oxides with alcohols, amines, aliphatic carboxylic acids or carboxamides, the acidic phosphoric, phosphonic, sulfuric and sulfonic esters of these alkylene oxide compounds, the salts of these esters and the alkylphenyl- and
- 20 alkyl-naphthalenesulfonic acids, their salts and their condensation products with formaldehyde.
- 25 5. A process for producing pigment preparations as claimed in any of claims 1 to 4, which comprises wet-comminuting the pigment (A) in aqueous suspension which comprises some or all of additive (C) and, if desired, some or all of pigment derivative (B) and also, if desired, prior or subsequent neutralization of the suspension with a base and then drying the suspension, if necessary after the rest of pigment derivative (B) and additive (C) has been added.
- 30 6. A process for coloration of macromolecular organic and inorganic materials, which comprises incorporating pigment preparations as claimed in any of claims 1 to 4 in these materials by stirring or shaking.
7. A process as claimed in claim 6 for coloration of coatings, paints, inks, including printing inks, and finish systems where the liquid phase comprises water, organic solvents or mixtures of water and organic solvents.

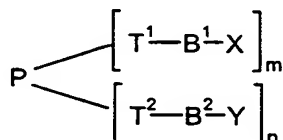
8. A process for coloration of macromolecular organic and inorganic materials using color-mixing systems, which comprises using pigment preparations as claimed in any of claims 1 to 4 as mixing components.
  9. A process for coloration of plastics, which comprises incorporating pigment preparations as claimed in any of claims 1 to 4 in the plastics by extruding, rolling, kneading or milling.
- 5 Solid pigment preparations including pigment derivatives and surface-active additives

## Solid pigment preparations containing pigment derivatives and surface-active additives

## Abstract

Solid pigment preparations comprising as essential constituents

- (A) from 60% to 85% by weight of at least one organic pigment,
- 5 (B) from 0.1% to 15% by weight of at least one pigment derivative of the general formula I



where

- P is the residue of the core structure of an organic pigment;
- T<sup>1</sup> and T<sup>2</sup> are independently a chemical bond, -CONR<sup>1</sup>- or -SO<sub>2</sub>NR<sup>1</sup>-;
- 10 B<sup>1</sup> and B<sup>2</sup> are independently a chemical bond, C<sub>1</sub>-C<sub>8</sub>-alkylene or phenylene;
- X and Y independently represent identical or different groups -SO<sub>3</sub><sup>-</sup>Ka<sup>+</sup> or -COO<sup>-</sup>Ka<sup>+</sup>;
- m and n are each a rational number from 0 to 3 subject to the proviso that
- 1 ≤ m+n ≤ 4;
- Ka<sup>+</sup> is H<sup>+</sup>, Li<sup>+</sup>, Na<sup>+</sup>, K<sup>+</sup>, N<sup>+</sup>R<sup>2</sup>R<sup>3</sup>R<sup>4</sup>R<sup>5</sup> or a mixture thereof;
- 15 R<sup>1</sup> is hydrogen; C<sub>1</sub>-C<sub>4</sub>-alkyl; unsubstituted or C<sub>1</sub>-C<sub>18</sub>-alkyl-substituted phenyl; or unsubstituted or C<sub>1</sub>-C<sub>18</sub>-alkyl-substituted naphthyl;
- R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup> and R<sup>5</sup> are independently hydrogen; C<sub>1</sub>-C<sub>30</sub>-alkyl; C<sub>3</sub>-C<sub>30</sub>-alkenyl; C<sub>5</sub>-C<sub>6</sub>-cycloalkyl, unsubstituted or C<sub>1</sub>-C<sub>24</sub>-alkyl-substituted; unsubstituted or C<sub>1</sub>-C<sub>24</sub>-alkyl- or C<sub>2</sub>-C<sub>24</sub>-alkenyl-substituted phenyl; unsubstituted or C<sub>1</sub>-C<sub>24</sub>-alkyl- or C<sub>2</sub>-C<sub>24</sub>-alkenyl-substituted naphthyl; a radical of the formula
- 20 -[CHR<sup>6</sup>-CHR<sup>7</sup>-O]<sub>x</sub>-R<sup>8</sup> where the repeat units -[CHR<sup>6</sup>-CHR<sup>7</sup>-O] can vary for x > 1;
- R<sup>6</sup>, R<sup>7</sup> and R<sup>8</sup> are independently hydrogen or C<sub>1</sub>-C<sub>6</sub>-alkyl;
- x is an integer ≥ 1,
- 25 and
- (C) from 14.9% by weight to 39.9% by weight of at least one surface-active additive selected from the group consisting of the nonionic polyethers comprising no primary amino group, said polyethers' acidic phosphoric, phosphonic, sulfuric and/or sulfonic esters, the salts of these esters and the alkyl- and alkylarylsulfonic acids, their salts and their condensation products with formaldehyde.
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